Part IV. Plant Assessment Form

For use with "Criteria for Categorizing Invasive Non-Native Plants that Threaten Colorado's Wildlands and Agriculture"

By the Colorado Noxious Weed Advisory Committee

Electronic version: December 4, 2008

Table 1. Species and Evaluator Information

Species name (Latin binomial)**:**	Gypsophila paniculata
Synonyms:	None
Common names:	Baby's breath, perennial or tall baby's breath, bachelor's button, maiden's breath
Evaluation date (mm/dd/yy)**:**	1/24/10
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Section below for list committee use—please leave blank

List committee members:	enter text here
Committee review date:	enter text here
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:

G. paniculata is listed as a noxious weed species in the following locations: California (B list); Washington (Class C). Due to technical difficulties the Agricultural Plant Score matrix may not appear in this document. The following results apply to section 4:

Total Points: 3

Score: C … Moderate, No Alert

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	C	Other Pub. Mat'l	**Impact** *Enter four characters from Q1.1-1.4 below:* **CADD** *Using matrix, determine score and enter below:* **B**		
1.2	Impact on plant community	A	Rev'd, Sci. Pub'n			
1.3	Impact on higher trophic levels	D	Rev'd, Sci. Pub'n			
1.4	Impact on genetic integrity	D	No Information			
2.1	Role of anthropogenic and natural disturbance	B (2 pts)	Rev'd, Sci. Pub'n	**Invasiveness** *Enter the sum total of all points for Q2.1-2.7 below:* **16** *Use matrix to determine score and enter below:* **B**		**Wildlands Plant Score** *Using matrix, determine Overall Score and Alert Status from the first, second, and third section scores and enter below:* **Moderate** **Red Alert**
2.2	Local rate of spread with no management	B (2 pts)	Other Pub. Mat'l			
2.3	Recent trend in total area infested within state	B (2 pts)	Other Pub. Mat'l			
2.4	Innate reproductive potential Wksht A	B (2 pts)	Rev'd, Sci. Pub'n			
2.5	Potential for human-caused dispersal	A (3 pts)	Other Pub. Mat'l			
2.6	Potential for natural long-distance dispersal	A (3 pts)	Rev'd, Sci. Pub'n			
2.7	Other regions invaded	B (2 pts)	Rev'd, Sci. Pub'n			
3.1	Ecological amplitude/Range	C	Other Pub. Mat'l	**Distribution** *Using matrix, determine score and enter below:* **C**		
3.2	Distribution/Peak frequency Wrksht B	C	Other Pub. Mat'l			

4.1	Poisonous to livestock	**D (0 pts)**	**Other Pub. Mat'l**
4.2	Detrimental to economic crops	**C (1 pt)**	**Other Pub. Mat'l**
4.3	Detrimental to management of agricultural system, rangeland and pasture	**D (0 pts)**	**Other Pub. Mat'l**
4.4	Human impacts Wrksht C	**B (2 pts)**	**Other Pub. Mat'l**

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	C Other Pub. Mat'l back
Identify ecosystem processes impacted: Occurrence is reported to reduce available nutrients for neighboring grass species (1).	
Rationale: Baby's breath plants can establish extensive root systems with a central deep taproot, likely allowing mature plants to outcompete more shallowly-rooted plant species for both available water and nutrients.	
Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L. Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf.	
Question 1.2 Impact on plant community composition, structure, and interactions	A Rev'd, Sci. Pub'n back
Identify type of impact or alteration: Known to out-compete native perennial plants in invaded sites (1, 2, 3).	
Rationale: Extensive root systems and high reproductive potential facilitate relatively rapid growth of infestations once established, in one case plant cover at an invaded site was estimated at 80% (1, 2). Ability to act as a habitat modifier can displace native species sensitive to habitat alterations (2).	
Sources of information: 1. Blumenthal, D, RA Chimner, JM Welker, JA Morgan. 2008. Increased snow facilitates plant invasion in mixedgrass prairie. New Phytologist 179: 440-448. 2. Karamanski, TJ. 2000. Nationalized Lakeshore: The Creation and Administration of Sleeping Bear Dunes National Lakeshore. Online Book. National Park Service, Department of the Interior. Available: http://www.cr.nps.gov/history/online_books/slbe. 3. Ministry of Agriculture and Lands, Government of British Columbia. 2010. Pest Management. Aggressive Ornamentals. Baby's breath (Gypsophila paniculata). Available online at www.agf.gov.bc.ca/cropprot/babysbreath.htm. 4. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm. 5. Wisconsin DNR. 2008. Baby's breath, Gypsophila paniculata. Available online at http://dnr.wi.gov/invasives/fact/babys_breath.htm.	
Question 1.3 Impact on higher trophic levels	D Rev'd, Sci. Pub'n back
Identify type of impact or alteration: No impacts on higher trophic levels are reported. In fact, baby's breath is reported to be attractive to many pollinating bees and flies (1).	
Rationale: enter text here	
Sources of information: 1. Darwent, AL, RT Coupland. 1966. Life history of Gypsophila paniculata. Weeds 14 (4): 313-318.	

Question 1.4 Impact on genetic integrity D No Information back

Identify impacts: No known impacts to genetic diversity of native plant species.

Rationale: All three Gypsophila species found in Colorado - G. paniculata, G. scorzonerifolia and G. elegans - are introduced ornamental species (1, 2).

Sources of information: 1. Ackerman, J. 2009. Gypsophila L. In The Flora of Colorado. Ft. Collins, CO: Colorado State University. p 203.

2. USDA, NRCS. 2010. The PLANTS Database. National Plant Data Center, Baton Rouge, LA 70874-4490, available online at http://plants.usda.gov.

Question 2.1 Role of anthropogenic and natural disturbance in establishment B Rev'd, Sci. Pub'n back

Describe role of disturbance: Naturalized populations frequently associated with moderately disturbed areas, e.g., roadsides, fields and pastures, beaches and sand dunes (2, 3, 4). However, establishment in undisturbed prairies as a result of escape from cultivation has also been reported (1).

Rationale: The role of disturbance in the spread and establishment of baby's breath is not well understood, although seeds are known to germinate optimally when located shallowly in the soil so disturbances may help to expose existing seeds (2).

Sources of information: 1. Blumenthal, D, RA Chimner, JM Welker, JA Morgan. 2008. Increased snow facilitates plant invasion in mixedgrass prairie. New Phytologist 179: 440-448.

2. Darwent, AL. 1975. The biology of Canadian weeds. 14. Gypsophila paniculata. Canadian Journal of Plant Sciences 55: 1049-1058.

3. Hartman, RL, R Rabeler. 2007. Gypsophila paniculata L., Baby's breath. In Rosatti, TJ (Ed). The Jepson Manual: Higher Plants of California, 2nd Ed. Available online at http://ucjeps.berkeley.edu/tjm2/review/treatments/caryophyllaceae.html#27446.

4. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm.

Question 2.2 Local rate of spread with no management B Other Pub. Mat'l back

Describe rate of spread: Local rate of spread is typically relatively slow, but there are documented cases of relatively rapid population increases.

Rationale: Under most circumstances the rate of spread is relatively low and dense infestations of baby's breath are relatively rare; more often than not the species is reported as occuring widely but sparsely (1, 3). However, there are reports of infestations growing very rapidly and densely within a 10-20 year period (2).

Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L.

Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf.

2. Karamanski, TJ. 2000. Nationalized Lakeshore: The Creation and Administration of Sleeping Bear Dunes National Lakeshore. Online Book. National Park Service, Department of the Interior. Available: http://www.cr.nps.gov/history/online_books/slbe.

3. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm.

Question 2.3 Recent trend in total area infested within state B Other Pub. Mat'l back

Describe trend: Though date and location of introduction into Colorado is not known, reports from available flora suggest that baby's breath infestations have spread geographically throughout the state over several decades.

Rationale: Described by Weber (1976) as being "locally abundant" in "foothill canyons (3)." As of 1996 reported to occur sporadically within Rocky Mountain National Park with a total area of about 12 acres (1). As of March 2008 reported to occur in Boulder, El Paso, Grand, Jefferson, Mesa, and Moffat counties (2).

Sources of information: 1. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm.

2. USDA, NRCS. 2010. The PLANTS Database. National Plant Data Center, Baton Rouge, LA 70874-4490, available online at http://plants.usda.gov.

3. Weber, WA. 1976. Rocky Mountain Flora. Gypsophila. Baby's Breath. Niwot, CO: University Press of Colorado. p 101.

Question 2.4 Innate reproductive potential B Rev'd, Sci. Pub'n back

Describe key reproductive characteristics: Plants do not produce flowers until the third year of growth (2). Individual plants capable of producing up to 14,000 seeds; seeds appear to have little to no dormancy requirements (1, 3, 5). Plants have thick rhizomes, fragments of which (along with those of the root crown) may re-sprout new shoots, although root fragments will not generate new plants; overall, vegetative reproduction is insignificant (3, 4).

Rationale: enter text here

Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L. Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf.

2. Darwent, AL. 1975. The biology of Canadian weeds. 14. Gypsophila paniculata. Canadian Journal of Plant Sciences 55: 1049-1058.

3. Darwent, AL, RT Coupland. 1966. Life history of Gypsophila paniculata. Weeds 14(4): 313-318.

4. DiTomaso, JM, EA Healy. 2007. Babysbreath [Gypsophila paniculata L. var. paniculata]. In Weeds of California and Other Western States, Vol. 1. Publication 3488. University of California, Agriculture and Natural Resources. Oakland, CA. p 564.

5. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm.

Question 2.5 Potential for human-caused dispersal A Other Pub. Mat'l back

Identify dispersal mechanisms: Species is widely cultivated for use both in gardens and floral arrangements (for example, two cultivated varieties found available for national distribution by Ball Horticultural Co.), and is known to have escaped cultivation and become naturalized in neighboring pastures and grasslands (1, 2, 3, 4). Commonly included in garden wildflower mixes (6). Also reported as a contaminant in domestic seed crops (5).

Rationale: enter text here

Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L. Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf.

2. DiTomaso, JM, EA Healy. 2007. Babysbreath [Gypsophila paniculata L. var. paniculata]. In Weeds of California and Other Western States, Vol. 1. Publication 3488. University of California, Agriculture and Natural Resources. Oakland, CA.

3. Rabeler, RK, RL Hartman. 2005. Gypsophila paniculata. In Flora of North America, Vol. 5. Available online at www.efloras.org.

4. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm.

5. USDA, ARS, National Genetic Resources Program. 2004. Germplasm Resources Information Network (GRIN). National Germplasm Resources Laboratory, Beltsville, MD. Available online at http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?18131.

6. Wisconsin DNR. 2008. Baby's breath, Gypsophila paniculata. Available online at http://dnr.wi.gov/invasives/fact/babys_breath.htm.

Question 2.6 Potential for natural long-distance dispersal A Rev'd, Sci. Pub'n back

Identify dispersal mechanisms: Capsules (seeds) can be naturally dispersed at distances up to 1 km, though normally seeds fall closer to parent plants (1). After senescence plants commonly break off at the base and become tumbleweed, widely dispersing seeds (1, 2, 3).

Rationale:

Sources of information: 1. Darwent, AL, RT Coupland. 1966. Life history of Gypsophila paniculata. Weeds 14 (4): 313-318.

2. Rabeler, RK, RL Hartman. 2005. Gypsophila paniculata. In Flora of North America, Vol. 5. Available online at www.efloras.org.

3. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at

http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm.

Question 2.7 Other regions invaded B Rev'd, Sci. Pub'n back

Identify other regions: Has invaded fragile Great Lakes sand dune communities in Wisconsin, where it stabilizes naturally shifting dunes and threatens the federally listed dune thistle (2, 3). At some sites in these communities baby's breath accounts for 80% of the present vegetative cover (2). Reported to escape cultivation into surrounding prairie outside Cheyenne, Wyoming (1).

Rationale: enter text here

Sources of information: 1. Blumenthal, D, RA Chimner, JM Welker, JA Morgan. 2008. Increased snow facilitates plant invasion in mixedgrass prairie. New Phytologist 179: 440-448.

2. Karamanski, TJ. 2000. Nationalized Lakeshore: The Creation and Administration of Sleeping Bear Dunes National Lakeshore. Online Book. National Park Service, Department of the Interior. Available: http://www.cr.nps.gov/history/online_books/slbe.

3. Wisconsin DNR. 2008. Baby's breath, Gypsophila paniculata. Available online at http://dnr.wi.gov/invasives/fact/babys_breath.htm.

Question 3.1 Ecological amplitude/Range C Other Pub. Mat'l back

Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: Exact date of introduction is not known, but the species was reported as being "locally abundant" in Weber's 1976 flora of the Rocky Mountains (6). Rutledge and McLendon reported that by 1996 the species was located throughout Rocky Mountain National Park, and was typically found in Ponderosa pine forests (4). Most recent state-wide distributions (March 2008) indicate baby's breath is found in Boulder, El Paso, Grand, Jefferson, Mesa, and Moffat counties (5).

Rationale: While exact ecological types within reported counties are not known, inferences can be made based on sites within other similar climates where baby's breath is invasive (1, 2, 3).

Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L. Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf.

2. Karamanski, TJ. 2000. Nationalized Lakeshore: The Creation and Administration of Sleeping Bear Dunes National Lakeshore. Online Book. National Park Service, Department of the Interior. Available: http://www.cr.nps.gov/history/online_books/slbe.

3. Ministry of Agriculture and Lands, Government of British Columbia. 2010. Pest Management. Aggressive Ornamentals. Baby's breath (Gypsophila paniculata). Available online at www.agf.gov.bc.ca/cropprot/babysbreath.htm.

4. Rutledge, CR, T McLendon. 1996. Gypsophila paniculata L., Babysbreath. In An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. 97 pp. Northern Prairie Wildlife Research Center. Available online at http://www.npwrc.usgs.gov/resource/plants/explant/gypspani.htm.

5. USDA, NRCS. 2010. The PLANTS Database. National Plant Data Center, Baton Rouge, LA 70874-4490, available online at http://plants.usda.gov.

6. Weber, WA. 1976. Rocky Mountain Flora. Gypsophila. Baby's Breath. Niwot, CO: University Press of Colorado. p 101.

Question 3.2 Distribution/Peak frequency C Other Pub. Mat'l back

Describe distribution: Distribution is relatively localized (6/64 counties), and infestations are not known to be very dense or extensive (1)

Rationale: enter text here

Sources of information: 1. USDA, NRCS. 2010. The PLANTS Database. National Plant Data Center, Baton Rouge, LA 70874-4490, available online at http://plants.usda.gov.

Question 4.1 Poisonous to Livestock D Other Pub. Mat'l back

Describe impacts in terms of high probability of death, long-term health impacts, or short-term health impacts: While baby's breath is known to contain saponins, which can be mildly toxic to humans, there are no reports to the plants being toxic to livestock. On the other hand frequent grazing is reportedly a reasonable effective means of controlling baby's breath infestations (1,2).

Rationale: enter text here

Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L. Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf.

2. Spoerke, DG, SC Smolinske. 1990. Gyposphila paniculata. In Toxicity of Houseplants. Boca Raton, FL: CRC Press. p 146.

Question 4.2 Detrimental to Economic Crops C Other Pub. Mat'l back

Describe impacts to all aspects of cropping systems (see guidelines): Although baby's breath is reported to have the ability to out-compete grasses in particular, the species vigor is strongly dependent on having adequate moisture available (1, 2).

Rationale:

Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L. Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf.

2. Blumenthal, D, RA Chimner, JM Welker, JA Morgan. 2008. Increased snow facilitates plant invasion in mixedgrass prairie. New Phytologist 179: 440-448.

Question 4.3 Detrimental to Mgmt of Agricultural System, Rangeland and Pasture D Other Pub. Mat'l back

Describe impacts to water diversion systems, increased water use, reduced forage for livestock: Minor production reductions in irrigated forage or hay crops could be expected by very dense infestations of baby's

breath (1, 2), but such densities are relatively uncommon.
Rationale: enter text here
Sources of information: 1. Alaska Natural Heritage Program. 2005. Baby's breath, Gypsophila paniculata L. Available online at http://akweeds.uaa.alaska.edu/pdfs/species_bios_pdfs/Species_bios_GYPA.pdf. 2. Blumenthal, D, RA Chimner, JM Welker, JA Morgan. 2008. Increased snow facilitates plant invasion in mixedgrass prairie. New Phytologist 179: 440-448.
Question 4.4 Human Health Impacts B Other Pub. Mat'l back
Describe key human impacts such as; irritants, property values, recreational values, and industry impacts: Repeated handling of baby's breath has caused hives, allergic asthma and dermatitis to develop in affected persons (2, 3, 4). Apparently the California Department of Food and Agriculture considered de-listing baby's breath as a noxious species due to the negative impact it's listing would have on the floricultural and horticultural industries in the state (1).
Rationale: enter text here
Sources of information: 1. California Department of Agriculture (CDFA). 2007. Proposed amendment of the regulations, Title 3, Section 4500. Available at: http://www.cdfa.ca.gov/PHPPS/docs/4500_ISR_Noxious_ Weed_Species_Remove.pdf. 2. Russell, AB, JW Hardin, L Grand, A Fraser. 1997. Gypsophila paniculata. Baby's breath. Poisonous Plants of North Carolina. Available at: http://ces.ncsu.edu/depts/hort/consumer/poison/ Gypsopa.htm. 3. Spoerke, DG, SC Smolinske. 1990. Gyposphila paniculata. In Toxicity of Houseplants. Boca Raton, FL: CRC Press. p 146. 4. Vidal, C, F Polo. 2007. Occupational allergy casued by Dianthus caryophillus, Gypsophila paniculata, and Lilium longiflorum. Allergy 53 (10): 995-998.

Worksheet A

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Reaches reproductive maturity in 2 years or less	**No: 0 pt**
Dense infestations produce >1,000 viable seed per square meter	**Yes: 2 pts**
Populations of this species produce seeds every year.	**Yes: 1 pt**
Seed production sustained over 3 or more months within a population annually	**Yes: 1 pt**
Seeds remain viable in soil for three or more years	**Unknown: 0 pts**
Viable seed produced with *both* self-pollination and cross-pollination	**Yes: 1 pt**
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	**No: 0 pt**
Fragments easily and fragments can become established elsewhere	**No: 0 pts**
Resprouts readily when cut, grazed, or burned	**No: 0 pt**

	5 pts **1 unknown**
	B (4-5 pts)
Note any related traits: enter text here	

Worksheet B - Colorado Ecological Types and Land Use

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Major Ecological and Land Use Types	Minor Ecological and Land Use Types	Code*
Freshwater and Aquatic Systems	lakes, ponds, reservoirs	**score**
	rivers, streams, canals	**score**
Riparian and wetlands	Riparian forest	**score**
	Riparian shrublands	**score**
	Wet meadows	**score**
Grasslands	Shortgrass prairie	**C. 5-20%**
	Tallgrass prairie	**score**
	Sandsage prairie	**score**
	Montane meadows	**score**
Irrigated Agriculture	Hay meadows	**C. 5-20%**
	Irrigated crops (alfalfa, corn, sugar beets)	**score**
Dryland Agriculture	Dryland crops (wheat, corn, millet, dryland grass hay, sunflowers, mustard for biodiesel)	**score**
Developed Lands	Urban, exurban, industrial	**D. present**
Arid Shrublands	Sagebrush shrublands	**score**
	Foothills shrublands	**score**
	Gambel oak shrublands	**score**
Woodlands	Pinyon - juniper	**score**
	Ponderosa pine	**D. present**
	Limber pine	**score**
Forest	Lodgepole pine	**score**
	Spruce-fir	**score**
Alpine	Boulder and rock fields	**score**
	Dwarf shrublands	**score**
	Tundra	**score**
Barrens (lower elevation)	Dunes	**Unknown**
	Rock outcrops	**score**
	Canyonlands	**score**

* A. means >50% of type occurrences are invaded; B means >20% to 50%; C. means >5% to 20%; D. means present but ≤5%; U. means unknown (unable to estimate percentage of occurrences invaded).

Worksheet C – Human Impacts

Human health impacts; irritants (sap), spines, poisonous, and/or smoke impacts	**Yes: 1 pt**
Property values are decreased due to increased risk of fire	**Unknown: 0 pts**
Decreased property value due to moderate to heavy infestations	**Unknown: 0 pts**
Decreased land value for recreational use; boating, fishing, camping, etc.	**Unkown: 0 pts**
Impact of listing detrimental to industry; agriculture, horticulture, nursery, and/or seed	**Yes: 2 pt**
3 pts	**3 unknowns**
B (3 pts)	

Note any related traits: enter text here